Bard (C. L.)

Case of Supra-pubic Cystotomy × × × × × × ×

[Reprinted from SOUTHERN CALIFORNIA PRACTITIONER, Mar., 1893.]

CASE OF SUPRA-PUBIC CYSTOTOMY PERFORMED TO SECURE CONTINUOUS DRAINAGE OF THE BLADDER.*

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Andrew Miller, aged fifty-nine, on the fifteenth day of September, 1890, in sliding down from a hay-mow, where he had passed the night, alighted upon a paling, the point of which pierced the scrotum and perineum.

Upon his admission to the Ventura County Hospital, I found an extensive lacerated wound of the perineum involving the scrotum and membranous and spongy portions of the urethra. The extremities of the lacerated urethra were widely separated and the vesical one difficult to find.

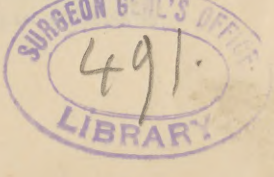
An attempt to restore continuity of canal was made by passing a silver catheter into the bladder and retaining it. It was found impossible to approximate the retracted ends of the urethra over the instrument, but they were drawn as close as possible by the use of silk sutures. The catheter was left in situ for two weeks in hope that the gap might close by granulation. Its withdrawal, however, revealed a failure of the procedure and the case became one of a bad perineal fistula, complicated with hypertrophy of the prostate, which had been a source of great trouble to him for a long time prior to the accident.

There was no incontinence of urine but micturition was frequent and distressing. The closure of the fistula, from time to time, necessitated its being laid freely open with the knife. As in stricture, or other obstacle to the free flow of urine, cystitis was not slow in putting in an appearance, adding much to the severity of his sufferings. The urine soon became ammoniacal, muco-purulent, and frequent analysis revealed an alkaline reaction, abundance of pus corpuscles and salts, especially the triple-phosphates. Percussion above the pubes, whenever made, showed the bladder partially filled, its inability to completely empty itself being due to the ropy, purulent character of the urine, which could not be forced through the constricted, tortuous fistula. His pains were intense and constant; his nights were sleepless; he lost his appetite; and he became very much reduced in weight.

It became apparent to me that the only hope for relief consisted in free continuous drainage of the bladder and washing it out.

A careful consideration of the different operations which might be resorted to for his benefit, resolved itself into a choice between

*Read before the Tenth Semi-Annual Meeting of the Southern California Medical Society, held at Los Angeles, December 7 and 8, 1893.



the different forms of puncture through the perineum: a supra-pubic puncture, and a supra-pubic cystotomy. No attention was paid to other methods, as they were deemed lacking in the requirements of this particular case and those of modern surgery. Of those considered, a puncture directly into the bladder through the hypertrophied prostate, or in front of it, into the membranous portion of the urethra, owing to the disorganized condition of the perineum, which was nothing but a mass of cicatricial tissue, seemed exceedingly hazardous and difficult of execution. Of the two, the latter, known as Cock's operation, would have been more easily performed, but it was not very promising inasmuch as the urethra is opened *in front* of the prostate, the pathological condition of which in this case was a great obstacle to the emptying of the bladder. Abandoning the perineum and rejecting the usual supra-pubic puncture with trocar and retained canula, which is often attended by infiltration of urine, and is deficient in facilities for washing and drainage, I adopted for my purpose a supra-pubic cystotomy which would include the stitching of the vesical wall to the abdominal integument. My decision was largely attributable to the fact that this bladder was nothing but an abscess through which the urine trickled, and that it, like other pus cavities, should be treated by free opening and free drainage.

It would give me a larger opening than afforded by the other methods and remote from the rectum, that constant source of infection in operations in the pelvic region.

It would also give me free access to, and a clear insight of, the bladder, enabling me to thoroughly drain it of its contents, to treat its interior and the hypertrophied prostate, if so required. Such an operation commended itself to me as one which could be performed under the eye, while in the others, the operator works in dark and cannot be sure, at all times, that he is right.

On May 28th, 1892, eight months after receipt of injury, assisted by Drs. Kellogg, Marks, and Orella, I performed the preferred operation as follows: He was placed in the Trendelenberg position, and a large-sized Barnes dilator placed in the rectum and distended with warm water.

Through a field made as aseptic as possible, an incision in the median line three inches in length was made, beginning about three and one-half inches above, and extending downward to the upper margin of the pubic symphysis.

This was carried carefully down until the anterior wall of the viscus was reached. Neither the peritoneum nor any considerable hemorrhage was encountered. At this stage I resorted to the following original method of managing the bladder before incising it, consisting in passing a needle, armed with a silk ligature, through

the integument on one side of the external wound, then through the bladder, which was held up by a tenaculum, its entry and exit being a half inch on each side of the median line, and then through the integument opposite to the point of introduction. A blunt hook was then inserted through a puncture of the bladder, where held by the tenaculum, and the thread drawn out and cut. I was thus provided with two ligatures, which enabled me to draw up the bladder and to incise it, to the extent of one and a quarter inches, without the slightest possibility of extravasation of urine.

After being emptied of a thick, tenacious, gelatinous, purulent mass, its wall was securely sutured to the integument with silver wire; the viscus washed out with Thiersch's solution; and a drainage tube, improvised from a section of the soft tube in general use for lavage of the stomach, placed in position and retained. To it was attached another tube of a smaller lumen which conveyed the urine to a vessel at the bedside. The progress of the case was most satisfactory. His pulse never exceeded ninety, nor his temperature 100°. His pains ceased; his appetite returned; he slept well; gained weight; and in a week's time, he was able to walk to a chair, which he occupied for a considerable portion of the day.

Leakage around the tube was, at first, troublesome, but became less as the wound closed. Excoriation of the skin did not occur; I mention this as it is usually described as a constant accompaniment of the operation. Its absence in this case was doubtless due to the extreme alkalinity of the escaping urine.

More than ten—at date of publication—months now have passed, and the success of the operation is assured. The tube, at this date, conducts the urine along the inside aspect of the thigh to a gutta-percha reservoir fastened to the leg just above the ankle. Although the urine shows an approach toward its normal condition, the cystitis, in a much milder degree, however, persists. So does it, however, when other operations for a similar purpose are performed.

In addition to the marked improvement as described, a most marked reduction in the size of the hypertrophied prostate is quite noticeable.

The claims of superiority of this operation are the facility of execution; that important structures are not interfered with; and that the danger of extravasation of urine is practically reduced to a minimum. But few instruments are required in its execution. John Doot, the Amsterdam blacksmith, delivered himself successfully of a stone by cutting himself above the pubes with a shoemaker's knife. It enables the surgeon to make a larger opening into the bladder than do the other methods, and enables him to

more thoroughly inspect, wash out, and treat the diseased organ. It enables him also to provide his patient with a prosthetic apparatus, much more easily retained, and its accessibility gives the wearer a much better control of it. In the operation as described there can be no extravasation of urine, which we know often accompanies other forms of puncture.

The disadvantages of supra-pubic cystotomy are said to consist of danger of rupture of the bladder during its hyperdistension; and of injury to the peritoneum in making the incision. Few, if any, cases of rupture have been recorded; and injury to the reflected fold of the peritoneum is very rare. If cut, it is easily sewn and the operation deferred until adhesion occurs. So well pushed up is the peritoneum, however, that it is seldom seen, let alone, cut. At the last meeting of the American Medical Association, Dr. Hunter Maguire, in reporting a series of 118 operations performed for the removal of stone, stated that he had not encountered the peritoneum during the performance of any one of them.

Although supra-pubic cystotomy is often resorted to for the removal of stones, and for operations in the interior of the bladder, I desire, in closing, to call your attention to the extreme rarity of its performance for the purpose of securing continuous drainage of the bladder. A search has disclosed to me but two or three cases on record, and the only history of them, and illustration of the apparatus used, is to be found in the Annual of the Medical Sciences for 1889. It is an extract from the British Medical Journal, written by G. Backston Browne, of London, who so operated for relief of vesical cancer. In the same article was the statement that Sir Henry Thompson had a patient who had worn such an apparatus for some months. It will be observed that in the recorded cases the operation was performed for cancer and other diseases of the bladder, and it is quite possible that my case is the first performed for the purpose herein described. That considerable and favorable consideration of the advantages of a supra-pubic cystotomy for serious injuries of the urethra exists, is to be inferred by the following item just noticed in the American Journal of the Medical Sciences for December, 1892:

"Jaboulay describes a new method for constructing an artificial meatus and urethra through the right rectus muscle of the abdomen. The incision was made parallel to the usual one in the median line; the peritoneum was easily pushed upward, and the bladder wall and skin sutured by six sutures, the muscular layer being omitted. The result obtained was very satisfactory, and the author believes the method will give better and quicker results than others hitherto in vogue, the recti having apparently a strong sphincteric action, and likewise drawing the opening upward."